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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|------------------------------|---------------------|------------------|
| 10/717,097 | 11/19/2003 | Ravi Shankarnarayan Adapathy | RPS9-2003-0183US1 | 7297 |
| 61755 | 7590 | 07/03/2006 | | EXAMINER |
| KUNZLER & ASSOCIUATES 8 EAST BROADWAY, SUITE 600 SALT LAKE CITY, UT 84111 | | | SHENG, TOM V | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2629 | |

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/717,097 | ADAPATHYA ET AL. | |
| | Examiner | Art Unit | |
| | Tom V. Sheng | 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 November 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-30 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-30 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 19 November 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/19/2003.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities:
in line 7 of claim 14, “reacts the” should be “reacts with the” instead. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 7-9 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claims 7-9 and 25, it is unclear whether the compound on the control object forms a designator visible under visible lighting condition or non-visible lighting condition, or if the designator is visible yet differs under the two conditions. This is a critical aspect that allows one of ordinary skill in the art to understand and make use of the invention.

As for claim 9 line 2, it is unclear if the “visible designator” is visible under visible lighting or under non-visible lighting.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4, 10-19, 21, 24 and 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Levy et al. (US 7,044,614 B2), hereinafter Levy.

As for claim 1 and associated claims 10, 14, 15, 24 and 29, Levy teaches an apparatus (device 100; fig. 6) for demarking a control object (such as for highlighting; column 3 lines 57-59), the apparatus comprising:

a compound (photochromic compounds) applied to a control object (function buttons 112; column 5 lines 62-64), the compound configured to react to non-visible light by radiating visible light (the buttons 112 changes color and functions in exposure to an UV source; column 6 lines 4-10); and

a non-visible light source configured to directly radiate the compound (exposed to an external UV source such as UV-LEDs 108, 109 and lightpipe 110; column 5 lines 48-51). See also fig. 7 and column 6 lines 15-39 for detailed steps.

As for claims 2-3, 11-12, 16-17, 26 and 28, both UV-LEDs 108 and 109 (fig. 6) are ultraviolet light emitting diode (column 5 lines 48-51).

As for claims 4, 13, 18 and 27, Levy teaches that the photochromic compound reacts to the UV light from UV-LEDs 108 and 109 (fig. 6; column 5 lines 62-64 and column 6 lines 4-10).

As for claim 19, the UV-LEDs 108, 109 and lightpipe 110 are integrated in the device 100 as shown (fig. 6).

As for claim 21, Levy teaches alternative use of an external UV source (fig. 6; column 5 lines 39-42; or like light source 35 shown in fig. 3) that corresponds to claimed separated non-visible light source.

Claim 30 is rejected based on rejections of claims 2-4.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levy.

As for claim 6, Levy does not teach that the same compound is applied to a control delineator configured to demark the control object. On the other hand, since all the buttons 112 are coated with the photochromic compound, the buttons 112, as a whole, also forms a delineator demarking the buttons 112 individually.

As for claim 20, Levy teaches alternative use of an external UV source by means of the UV-LEDs 108, 109 and lightpipe 110 (fig. 6; column 5 lines 39-42); however, Levy does not teach the external UV source disposed upon a positioning stalk in physical communication with the I/O device.

On the other hand, Levy teaches in another embodiment (fig. 3) where an external and detached UV light source 35 is provided (column 3 lines 22-36). One of ordinary skill in the art would recognize that this light source 35 could either be separated from the I/O device or attached to the I/O device in order to receive power, by means of a rigid or semi-rigid connector. Moreover, using an attached light source is beneficial as the positioning can be controlled easily.

Therefore, it would have been obvious to provide a UV light source in a stalk-like connection in physical communication with the I/O device, as this allows a flexible positioning of the light source above the control object, and with power for the light source derived directly from the I/O device. Moreover, this light source can be detached when this demarking is not needed, such as in the presence of sufficient ambient light.

8. Claims 5 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levy as applied to claim 1 or 15 above, and further in view of Lengyel et al. (US 6,069,441), hereinafter Lengyel.

As for claims 5 and 22-23, Levy, as analyzed with respect to claim 1 or 15, teaches device 100, photochromic compounds and UV-LEDs 108 or 109, that correspond to claimed apparatus for demarking a control object, compound configured

to react to non-visible light and non-visible light source, respectively. Further, Levy teaches a LCD area 106 in the device 100 and LCD nowadays in general has a backlight for display lighting.

However, Levy does not teach that the non-visible light source provides non-visible wavelengths out of a display light source, as claimed. Lengyel teaches an LCD display with a backlight (fig. 1). Specifically, the backlight is a UV light source and produces UV light and impinging upon a phosphor coating 14, which in turn produces visible light exiting window 18 (column 3 lines 28-48).

Lengyel's phosphor coating 14 is meant to convert as much of the UV light into visible light. On the other hand, one of ordinary skill in the art would recognize that the phosphor coating could be modified such that a portion of the UV light would pass through the coating 14. In this case, the passed through UV light can be advantageously used in activating any photochromic compounds outside the LCD display. Accordingly, the buttons 112 can be illuminated/activated by the UV light from the UV light source 16 instead of any other external UV light sources (such as Levy's UV-LEDs 108, 109 and lightpipe 110).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the backlight of LCD such that part of the UV light is used for activating the coatings on the buttons 112 for changing color or brightness, because of the benefit to reduce cost and real-estate by not having to use external UV light sources like the UV-LEDs 108, 109 and lightpipe 110.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Sheng
June 16, 2006

AMR A. AWAD
PRIMARY EXAMINER
